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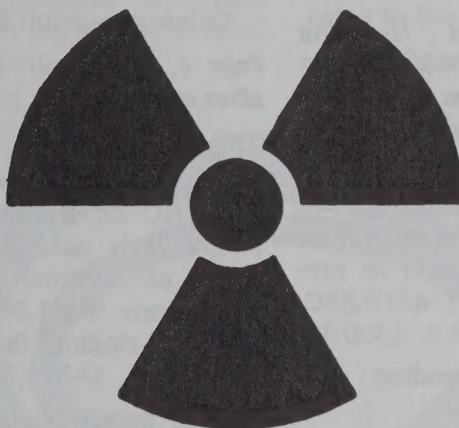
HEADQUARTERS  
DEPARTMENT OF THE ARMY  
Washington, DC, 12 December 1983

## RADIO SET CONTROL AN/GSA-7 (NSN 5820-00-543-1397)

TM 11-5135-15, 7 May 1958, is changed as follows:

*Inside front cover.* Delete the "RADIATION HAZARD" notice and substitute:

### RADIATION HAZARDS



STD-RW-2

Ni 63  
Co 60

Tube types OB2WA and 5651 used in the AN/GSA-7 contain radioactive material. These tubes are potentially hazardous when broken; see qualified medical personnel and the Safety Director if you are exposed to or cut by broken tubes. Use extreme care when replacing these tubes (par. 20c) and follow safety procedures in their storage and disposal (par. 20.1).

Never place a radioactive tube in your pocket.

Use extreme care not to break radioactive tubes while handling them.

Never remove radioactive tubes from cartons until ready to use them.

Refer to paragraph 20.1 on handling, storage, and disposal of radioactive material.

Page 3. Delete paragraph 1-1 and substitute:

\*This change supersedes C3, 24 October 1963 and C9, 22 November 1979.



### 1.1. Consolidated Index of Army Publications and Blank Forms

Refer to the latest issue of DA Pam 310-1 to determine whether there are new editions, changes or additional publications pertaining to the equipment.

Delete paragraphs 2, 2.1, 2.2, 2.3 and 2.4 and substitute:

### 2. Maintenance Forms, Records, and Reports

*a. Reports of Maintenance and Unsatisfactory Equipment.* Department of the Army forms and procedures used for equipment maintenance will be those prescribed by TM 38-750, The Army Maintenance Management System.

*b. Report of Packaging and Handling Deficiencies.* Fill out and forward SF 364 (Report of Discrepancy (ROD)) as prescribed in AR 735-11-2/DLAR 4140.55/NAVMATINST 4355.73A/AFR 400-54/MCO 4430.3F.

*c. Discrepancy in Shipment Report (DISREP) (SF 361).* Fill out and forward Discrepancy in Shipment Report (DISREP) (SF 361) as prescribed in AR 55-38/NAVSUPINST 4610.33C/AFR 75-18/MCO P4610.19D/DLAR 4500.15.

#### 2.1. Reporting Errors and Recommending Improvements

You can help improve this manual. If you find any mistakes or if you know of a way to improve the procedures, please let us know. Mail your letter or DA Form 2028 (Recommended Changes to Publications and Blank Forms) direct to: Commander, US Army Communications-Electronics Command and Fort Monmouth, ATTN: DRSEL-ME-MP, Fort Monmouth, New Jersey 07703. In either case, a reply will be furnished direct to you.

#### 2.2. Reporting Equipment Improvement Recommendations (EIR)

If your radio set control needs improvement, let us know. Send us an EIR. You, the user, are the only one who can tell us what you don't like about your equipment. Let us know why you don't like the design. Put it on an SF 368 (Quality Deficiency Report). Mail it to Commander, US Army Communications-Electronics Command and Fort Monmouth, ATTN: DRSEL-ME-MP, Fort Monmouth, New Jersey 07703. We'll send you a reply.

### 2.3. Administrative Storage

Administrative Storage of equipment issued to and used by Army activities will have preventive maintenance performed in accordance with the PMCS charts before storing. When removing the equipment from administrative storage the PMCS should be performed to assure operational readiness. Disassembly and repacking of equipment for shipment or limited storage are covered in chapter 6 and TM 740-90-1.

### 2.4. Destruction of Army Electronics Materiel

Destruction of Army electronics materiel to prevent enemy use shall be in accordance with TM 750-244-2.

Delete paragraph 2.5.

Page 4, paragraph 4b. Add subparagraph b.1 after subparagraph b.

*b.1.* When Receiver-Transmitter, Radio RT-246/VRC or Receiver-Transmitter, Radio RT-524/VRC is used to call the telephone equipment, an external ring facility must be used to generate the 1,600-cps ring signal. Such an external ringing facility is Oscillator, Audio Frequency O-574/GRC (fig. 4.1, para 8d).

Page 6, paragraph 5. Add the following to the technical characteristics chart:

#### WARNING

Tube types OB2WA and 5651 are used in this equipment. These tubes contain radioactive material and are potentially hazardous when broken. The type and quantity of radioactivity are listed below.

Tube type	Isotope	Quantity (microcuries)
OB2WA	Ni 63	0.01—.05
	or Co 60	0.0067
5651	Co 60	0.0067

Page 10, paragraph 10. Delete subparagraph a, a.1. and a.2., and substitute:

*a.* Inspect the equipment for damage incurred during shipment. If the equipment has been damaged, report the damage on SF 364 (para 2).



a.1. See that the equipment is complete as listed on the packing slip. If the packing slip is not available, check the equipment against the components listings in paragraph 6. Report all discrepancies in accordance with TM 38-750. Shortage of a minor assembly or part that does not affect proper functioning of the equipment should not prevent use of the equipment.

a.2. If the equipment has been used or reconditioned, see whether it has been modified, the modification work order (MWO) number will appear on the front panel near the nomenclature plate. Check to see whether the MWO number (if any) and appropriate notations concerning the modification have been entered in the equipment manual.

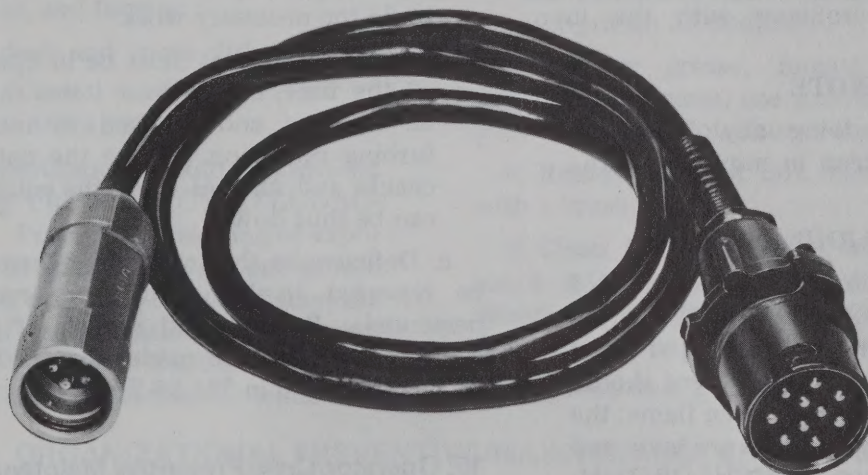
#### NOTE

Current MWO's applicable to the equipment are listed in DA Pam 310-1.

Page 12. Delete subparagraph 11h.1 and substitute:

h.1. To transmit and receive through Receiver-Transmitter, Radio RT-246/VRC or Receiver-Transmitter, Radio RT-524/VRC, Cable Assembly, Special Purpose, Electrical CX-7474/U (figs. 6.1 and 23.1) is used to adapt RADIO receptacle J3 or J4 on the AN/GSA-7 to the RETRANSMIT R/W connector on the RT-246/VRC or RT-524/VRC. Refer to paragraph 13.1 for additional information applicable to the CX-7474/U.

Add figure 6.1 after figure 6.



TM5135-15-C3-2

Figure 6.1. Cable, Assembly, Special Purpose, Electrical CX-7474/U.

Page 16. Change chapter 3 heading to "MAINTENANCE."

Section I. Delete section I including figures 8 and 9 and substitute:

### Section I. OPERATOR/CREW PREVENTIVE MAINTENANCE CHECKS AND SERVICES

#### 14. General

##### NOTE

Refer to TM 750-244-2 for proper procedures for destruction of this equipment to prevent enemy use.

a. Operator/crew preventive maintenance is the systematic care, servicing and inspection of equipment to prevent the occurrence of trouble,

to reduce downtime, and to maintain equipment in serviceable condition. To be sure that your AN/GSA-7 is always ready for your mission, you must do scheduled preventive maintenance checks and services (PMCS).

(1) BEFORE OPERATION, perform your B PMCS to be sure that your equipment is ready to go.



(2) When an item of equipment is reinstalled after removal, for any reason, perform the necessary B PMCS to be sure the item meets the readiness reporting criteria.

(3) Use the ITEM NO. column in the PMCS table to get the number to be used in the TM ITEM NO. column on DA Form 2404 (Equipment Inspection and Maintenance Worksheet) when you fill out the form.

b. Routine checks like CLEANING, DUSTING, WASHING, CHECKING FOR FRAYED CABLES, STOWING ITEMS NOT IN USE, COVERING UNUSED RECEPTACLES, AND CHECKING FOR LOOSE NUTS AND BOLTS are not listed as PMCS checks. They are things that you should do any time you see they must be done. If you find a routine check like one of those listed in your PMCS, it is because other operators reported problems with this item.

#### NOTE

When you are doing any PMCS or routine checks, keep in mind the warnings and cautions.

#### WARNINGS

- Adequate ventilation should be provided while using TRICHLOROTRIFLUOROETHANE. Prolonged breathing of vapor should be avoided. The solvent should not be used near heat or open flame; the products of decomposition are toxic and irritating. Since TRICHLOROTRIFLUOROETHANE dissolves natural oils, prolonged contact with skin should be avoided. When necessary, use gloves which the solvent cannot penetrate. If the solvent is taken internally, consult a physician immediately.
- Compressed air is dangerous and can cause serious bodily harm if protective means or methods are not observed to prevent a chip or particle (of whatever size) from being blown into the eyes or

unbroken skin of the operator or other personnel. Goggles must be worn at all times while cleaning with compressed air. Compressed air shall not be used for cleaning purposes except where reduced to less than 29 pounds per square inch gage (psig) and then only with effective chip guarding and personnel protective equipment. Do not use compressed air to dry parts when trichlorotrifluoroethane has been used.

#### NOTES

The PROCEDURES column in your PMCS charts instruct how to perform the required checks and services. Carefully follow these instructions and, if tools are needed or the chart so instructs, get organizational maintenance to do the necessary work.

If your equipment must be in operation all the time, check those items that can be checked and serviced without disturbing operation. Make the complete checks and services when the equipment can be shut down.

- c. Deficiencies that cannot be corrected must be reported to higher category maintenance personnel. Records and reports of preventive maintenance must be made in accordance with procedures given in TM 38-750.

#### 15. Operator/Crew Preventive Maintenance Checks and Services

Perform before operation PMCS if you are operating the item for the first time.

#### NOTE

The checks in the interval column are to be performed in the order listed.



## 16. Operator/Crew Preventive Maintenance Checks and Services Chart

B — Before

Item No.	Interval	Item to be Inspected	Procedures — Check for and have repaired or adjusted as necessary	Equipment is not Ready/Available If:
	B			
1	•	Mission Essential Equipment	Check for completeness and satisfactory condition of the equipment. Report missing items.	Available equipment is insufficient to support the combat mission.
2	*	AN/GSA-7	Perform operational checks as described in paragraph 19.	Does not produce ringing signal.

\*Do this check before each deployment to a mission location. This will permit any existing problems to be corrected before the mission starts. The check does not need to be done again until redeployment.

### 16.1. Cleaning

Inspect the exterior of the equipment. The exterior surfaces should be clean, and free of dust, dirt, grease, and fungus.

a. Remove dust and loose dirt with a clean soft cloth.

#### WARNING

Adequate ventilation should be provided while using TRICHLOROTRIFLUOROETHANE. Prolonged breathing of vapor should be avoided. The solvent should not be used near heat or open flame; the products of decomposition are toxic and irritating. Since TRICHLOROTRIFLUOROETHANE dissolves natural oils,

prolonged contact with skin should be avoided. When necessary, use gloves which the solvent cannot penetrate. If the solvent is taken internally, consult a physician immediately.

b. Remove grease, fungus, and ground-in dirt from the cases; use a cloth dampened (not wet) with trichlorotrifluoroethane.

c. Remove dust or dirt from plugs and jacks with a brush.

d. Clean the front panel and control knobs; use a soft clean cloth. If dirt is difficult to remove, dampen the cloth with water; mild soap may be used for more effective cleaning.

Add section 1.1 after section 1.

## Section 1.1. ORGANIZATIONAL PREVENTIVE/MAINTENANCE CHECKS AND SERVICES

### 16.2. Tools, Materials, and Test Equipment Required

A list of parts authorized for organizational maintenance appears in TM 11-5820-274-12P. The tools, materials, and test equipment required for organizational maintenance are listed below.

a. *Tools.* All the tools required are contained in Tool Kit, Electronic Equipment TK-101/G (NSN 5180-00-064-5178).

b. *Materials.*

(1) Cleaning solution — Trichlorotrifluoroethane (NSN 6850-00-105-3084).

(2) Cleaning cloth.

c. *Test Equipment.*

(1) Multimeter AN/URM-105.

(2) Test Set, Electron Tube TV-7/U.

### 16.3. Organizational Preventive Maintenance

Organizational preventive maintenance procedures are designed to help maintain equipment in serviceable condition. They include items to be checked and how to check them. These checks and services, described in paragraph 4-3, outline inspections that are to be made at specific monthly (M) intervals.



#### 16.4. Organizational Preventive Maintenance Checks and Services Chart

M — Monthly

Item No.	Interval	Item to be Inspected	Procedures
	M		
1	•	AN/GSA-7	Perform operation check as described in paragraph 19.

#### 16.5. Touchup Painting Instructions

Remove rust and corrosion from metal surfaces by lightly sanding them with fine sandpaper. Brush two thin coats of paint on the bare metal to protect it from further corrosion. Refer to the applicable cleaning and refinishing practices specified in TM 43-0139.

Page 20, paragraph 20. Add paragraph 20.1 after paragraph 20.

##### 20.1. Handling, Storage, and Disposal of Radioactive Material

Follow the procedures for safe handling, storage, and disposal of radioactive materials as directed by:

a. TB-43-0197, Instructions for Safe Handling Maintenance, Storage and Disposal of Radioactive Items Managed by US Army Armament Materiel Readiness Command.

b. AR 40-37, Radioactive Materials Licensing and Control for Medical Purposes.

Page 23. Figure No. 11. Add NOTE 1: R37 value selected to provide at least a 2-second continuation of 1600 Hz signal after ringing signal ceases.

Adjacent to R37, add: NOTE 1.

Page 38. Add figure 23.1 after figure 23.

Page 40. Paragraph 41.7a. Change subparagraph (2) to read:

(2) Hold the RADIO & MON-TEL SWITCH in the R TEL position for several seconds. The telephone will ring.

Change subparagraph (3) to read:

(3) The RADIO & MON-TEL SWITCH will return to the T TEL position. The telephone will stop ringing.

Facing page 40. Figure no. 25. After note 5, add:

6. R37 value selected to provide at least a 2-second continuation of 1600 Hz signal after ringing signal ceases.

Adjacent to R37, add: NOTE 6.

Page 41. Change the title of chapter 6 to "SHIPMENT AND LIMITED STORAGE".

Page 42. Delete section II in its entirety.

Page 43. Delete appendix I and substitute:

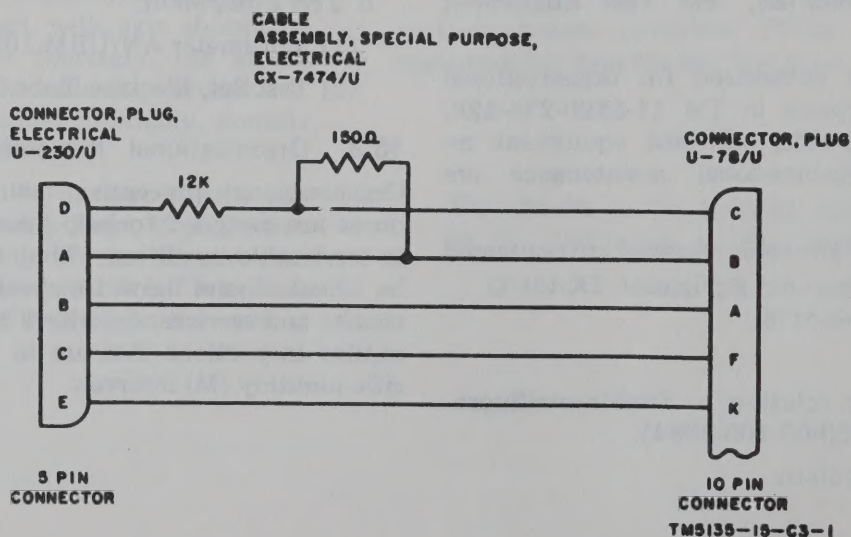


Figure 23.1. Cable assembly, special purpose, electrical CX-7474/U, wiring diagram.



## APPENDIX I

### REFERENCES

AR 40-37	Licensing and Control of Radioactive Materials for Medical Purposes.
DA Pam 310-1	Consolidated Index of Army Publications and Blank Forms.
TB 43-0197	Instructions for Safe Handling, Maintenance, Storage and Disposal of Radioactive Items Managed by US Army Armament Materiel Readiness Command.
TM 11-5805-295-14P	Operators, Organizational, DS and GS Maintenance Repair Parts and Special Tools Lists (Including Depot Maintenance Repair Parts and Special Tools) for Mountings MT-791/U and MT-791A/U (NSN 5805-00-186-9464).
TM 11-5820-274-24P	Organizational, DS and GS Maintenance Repair Parts and Special Tools Lists (Including Depot Maintenance Repair Parts and Special Tools) for Radio Set Control AN/GSA-7 (NSN 5820-00-543-1397).
TM 11-5820-401-10-1	Operators Manual: Radio Sets AN/VRC-12 (NSN 5820-00-223-7412), AN/VRC-43 (5820-00-223-7415), AN/VRC-44 (5820-00-223-7417), AN/VRC-45 (5820-00-223-7418), AN/VRC-46 (5820-00-223-7433), AN/VRC-47 (5820-00-223-7434), AN/VRC-48 (5820-00-223-7435) and AN/VRC-49 (5820-00-223-7437) (Used without an Intercom System).
TM 11-5820-401-12	Operators and Organizational Maintenance Manual for Radio Sets AN/VRC-12 (NSN 5820-00-223-7412), AN/VRC-43 (5820-00-223-7415), AN/VRC-44 (5820-00-223-7417), AN/VRC-45 (5820-00-223-7418), AN/VRC-46 (5820-00-223-7433), AN/VRC-47 (5820-00-223-7434), AN/VRC-48 (5820-00-223-7435) and AN/VRC-49 (5820-00-223-7437) (Used without an Intercom System).
TM 11-6625-203-12	Operators and Organizational Maintenance: Multimeter AN/URM-105 and AN/URM-105C (Including Multimeter ME-77/U and ME-77C/U).
TM 11-6625-218-12	Organizational Maintenance Manual for Frequency Meter AN/TSM-16.
TM 11-6625-251-15	Organizational, DS, GS and Depot Maintenance Manual: Test Set TS-140/PCM, Signal Generators SG-15/PCM and SG-15A/PCM and Decibel Meters ME-22/PCM and ME-22A/PCM.
TM 11-6625-274-12	Operators and Organizational Maintenance Manual for Test Sets, Electron Tube TV-7/U, TV-7A/U, TV-7B/U (NSN 6625-00-376-4939) and TV-7D/U (6625-00-820-0064).
TM 11-6625-316-12	Operators and Organizational Maintenance Manual: Test Sets, Electron Tube TV-2/U, TV-2A/U, TV-2B/U, and TV-2C/U.
TM 11-6625-320-35	DS, GS, and Depot Maintenance Manual: Voltmeter, Meter ME-30A/U and Voltmeters, Electronic ME-30B/U and ME-30C/U.
TM 38-750	The Army Maintenance Management System (TAMMS).
TM 43-0139	Painting Instructions for Field Use.
TM 740-90-1	Administrative Storage of Equipment.
TM 750-244-2	Procedure for Destruction of Electronics Materiel to Prevent Enemy Use.

By Order of the Secretary of the Army:

JOHN A. WICKHAM JR.  
General, United States Army  
Chief of Staff

Official:

ROBERT M. JOYCE  
Major General, United States Army  
The Adjutant General

DISTRIBUTION:

To be distributed in accordance with DA Form 12-51A, Operator's Maintenance requirements for AN/GSA-7.







